

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Gregor K. Frey

Application No.: 10/748,774

Filed: December 30, 2003

For: For: MONITORING ARCHITECTURE
EMPLOYING A HIERARCHICAL MONITOR
TREE FOR MONITORING SYSTEM RESOURCES

Examiner: Musa, Abdelnabi O.

Art Unit: 2446

Attorney Docket No.: 6570P044

*I hereby certify that this correspondence is being deposited
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sufficient postage in an envelope addressed to the Assistant
Commissioner for Patents, Washington, D.C. 20231 on:*

2/25/2009

Date of Deposit

/Vivian Lee/

2/25/09

Signature

Date

Director of the United States Patent and
Trademark Office***BOX NON FEE AMENDMENT***
Washington, D.C. 20231**Declaration of Miroslav R. Petrov**
Pursuant to 37 C.F.R. § 1.131

Sir:

I, Miroslav R. Petrov, hereby declare that:


1. I am a citizen of Bulgaria, and currently reside at Studentski grad, bl. 52 entr. A, room 609, Sofia, Bulgaria, 1734.
2. At the time I conceived this invention and filed the application for the invention, I worked as an employee of SAP Bulgaria.
3. I conceived the subject invention prior to July 22, 2003, as set forth in the enclosed "SAP Invention Disclosure Form" titled A Hierarchical Monitor Tree Employed within a JMX Interface.
4. I authored the subject document.

5. I reviewed the enclosed copy of the document I authored and believe it is a true copy of the document I authored.

6. Since prior to July 22, 2003, I diligently pursued the invention, including working with other SAP engineers to reduce the invention into practice, and working with attorneys of Blakely, Sokoloff, Taylor, and Zafman LLP in preparing and filing the subject patent application. The patent application was filed on December 30, 2003.

I further declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified patent application or any patent issued thereon.

Executed on: 16.02.2009

By: 
Miroslav R. Petrov

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)

Gregor K. Frey)

Application No.: 10/748,774)

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TREE FOR MONITORING SYSTEM RESOURCES)

Examiner: Musa, Abdelnabi O.

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Date

Director of the United States Patent and
Trademark Office**BOX NON FEE AMENDMENT**
Washington, D.C. 20231**Declaration of Joerg Weller**
Pursuant to 37 C.F.R. § 1.131

Sir:

I, Joerg Weller, hereby declare that:


1. I am a citizen of Germany, and currently reside at Waldhofer Strasse 82, Wieblingen, Germany 69123.
2. At the time I conceived this invention and filed the application for the invention, I worked as an employee of SAP AG.
3. I conceived the subject invention prior to July 22, 2003, as set forth in the enclosed "SAP Invention Disclosure Form" titled A Hierarchical Monitor Tree Employed within a JMX Interface.
4. I authored the subject document.

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Executed on: 16.2.09

By: 
Joerg Weller

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
Gregor K. Frey)	Examiner: Musa, Abdelnabi O.
)	
Application No.: 10/748,774)	Art Unit: 2446
)	
Filed: December 30, 2003)	Attorney Docket No.: 6570P044
)	
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TREE FOR MONITORING SYSTEM RESOURCES))	<i>sufficient postage in an envelope addressed to the Assistant</i>
)	<i>Commissioner for Patents, Washington, D.C. 20231 on:</i>
)	<u>2/25/2009</u>
)	<i>Date of Deposit</i>
)	<u>/Vivian Lee/ 2/25/2009</u>
)	Signature Date

Director of the United States Patent and
Trademark Office
BOX NON FEE AMENDMENT
Washington, D.C. 20231

Declaration of Juergen Oppenorth
Pursuant to 37 C.F.R. § 1.131

Sir:

I, Juergen Oppenorth, hereby declare that:

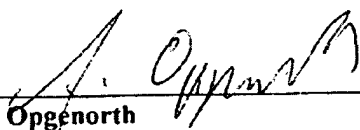
1. I am a citizen of Germany, and currently reside at Rohrbacher Str. 82, 69115 Heidelberg, Germany.
2. At the time I conceived this invention and filed the application for the invention, I worked as an employee of SAP AG.
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Executed on: February 19th, 2009

By: 
Juergen Oppenorth

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Gregor K. Frey

Application No.: 10/748,774

Filed: December 30, 2003

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 TREE FOR MONITORING SYSTEM RESOURCES

Examiner: Musa, Abdelnabi O.

Art Unit: 2446

Attorney Docket No.: 6570P044

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/Vivian Lee/

2/25/2009

Signature

Date

Director of the United States Patent and
 Trademark Office

BOX NON FEE AMENDMENT

Washington, D.C. 20231

Declaration of Reinhold Kautzleben
Pursuant to 37 C.F.R. § 1.131

Sir:

I, Reinhold Kautzleben, hereby declare that:

1. I am a citizen of Germany, and currently reside at *Hirschstr. 93*
~~Welfenstrasse 13~~,
 Karlsruhe, Germany 76137.

2. At the time I conceived this invention and filed the application for the
 invention, I worked as an employee of SAP AG.

3. I conceived the subject invention prior to July 22, 2003, as set forth in the
 enclosed "SAP Invention Disclosure Form" titled A Hierarchical Monitor Tree Employed
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Executed on: 24.02.2009

By: 
Reinhold Kautzleben

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Gregor K. Frey

Application No.: 10/748,774

Filed: December 30, 2003

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 EMPLOYING A HIERARCHICAL MONITOR
 TREE FOR MONITORING SYSTEM RESOURCES

Examiner: Musa, Abdelnabi O.

Art Unit: 2446

Attorney Docket No.: 6570P044

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2/25/2009

Date of Deposit

/Vivian Lee/

2/25/2009

Signature

Date

Director of the United States Patent and
 Trademark Office
BOX NON FEE AMENDMENT
 Washington, D.C. 20231

Declaration of Gregor K. Frey
Pursuant to 37 C.F.R. § 1.131

Sir:

I, Gregor K. Frey, hereby declare that:

1. I am a citizen of Germany, and currently reside at Friedrich-Ebert Strasse 9 A, Lorsch Germany, 64653.
2. At the time I conceived this invention and filed the application for the invention, I worked as an employee of SAP AG.
3. I conceived the subject invention prior to July 22, 2003, as set forth in the enclosed "SAP Invention Disclosure Form" titled A Hierarchical Monitor Tree Employed within a JMX Interface.
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Executed on: 24.2.2009

By:



Gregor K. Frey



SAP AG Confidential

2003P00521 US

SAP Invention Disclosure Form

Disclosure No.: 2003E00571 DE
(to be filled in by Intellectual Property Dpt.)

→ Please inform which GBU this invention belongs to:

AI Landscape, Implementation

Please only fill in one invention disclosure form per invention!

I Proposed Title of the invention

A Hierarchical Monitor Tree Employed Within a JMX Interface.

II Inventor(s)

a)

	First Name and Initial (e.g. Max B. Müller) Requested by US Patent Office	Last Name	User ID.	Estimated Contribution (%)	Employer (e.g. SAP AG, SAP Labs., SAP America) ⇒ Please press the F1-button.
1.	Gregor K.	Frey	d022051	20%	SAP AG
2.	Joerg	Weller	d034161	20%	SAP AG
3.	Juergen	Opgenorth	d027665	20%	SAP AG
4.	Reinhold	Kautzleben	d025700	20%	SAP AG
5.	Miroslav R.	Petrov	i024142	20%	SAP AG Bulgaria
6.					
7.					
8.					

	Residence Address (Private address) for Inventors Listed Above:	Citizenship
1.	Germany	German
2.	Germany	German
3.	Germany	German
4.	Germany	German
5.	Bulgaria	Bulgarian
6.		
7.		
8.		

Als **technischen Sachbearbeiter** für die vorliegende Erfindung benennen wir:

Er ist von uns ermächtigt, uns in allen die vorliegende Erfindung betreffenden Angelegenheiten - ausgenommen das Zurückziehen von Schutzrechten und Schutzrechtsanmeldungen sowie Erfindervergütungsregelungen - Ihnen gegenüber zu vertreten.

b) Was the invention made (partly or completely) within the U.S.?

no ☒ yes ☐ Please fill in below.

Date of conception (YYYY-MM-DD): - -

Country / location of conception:

Eng. Notebook no.: **Pages:** -

Date of first written description (YYYY-MM-DD): - -

Date of first disclosure to others at SAP (YYYY-MM-DD): - -

To whom:

First Name	Last Name	User-ID	Citizenship

Please attach **photocopies** of all pertinent engineering **notebook pages**, if available. These pages should be signed, dated, and witnessed by two other persons who have read and understood the description of the invention. If this has not yet been done, please do it now.

III Objective or purpose of invention

a) What is the underlying question/problem/task of the invention?

To provide a logical way to manage and view monitored resources within a distributed network architecture.

b) How is the question/problem/task solved?

Brief description of invention.

[Please attach a file containing a detailed description of the invention, drawings, other (see last page) to this form.]

Administration of J2EE Engine for the 6.30 release is based on JMX. The JMX specification provides a mechanism for arbitrary java resources to be managed in a standard way. In order to be manageable they have to provide a management interface and register an object that implements the interface, referred to as an "MBean," in an "MBean Server." The MBean server is a kind of container for the mbeans and provides them access to different types of management applications that may use the MBeans to manage thier associated java resources.

A typical SAP J2EE configuration comprises multiple groups of distributed J2EE servers, i.e., multiple "instances" of a group of redundant J2EE servers and a "dispatcher." Each node within each J2EE instance is provided with an MBean server which provides MBeans for monitoring specified system resources. The JMX service employed within the distributed J2EE configuration hides the clusterization of the various MBean servers and provides a unified view of managed resources at the upper level (i.e., as seen from JMX graphical interfaces such as the visual administrator. The resources to be monitored within the SAP J2EE system include kernel resources, services, interfaces and libraries.

As illustrated in the attached figure, runtime MBeans (also referred to as "resource MBeans") provide continuous monitoring of their resources during runtime and provide dynamic resource notifications which may then be viewed via the monitor browser (within the visual administrator). In one embodiment, a monitor service is employed which generates a monitor tree (mon.tree) representing the resources to be monitored (e.g., kernel, services, interfaces, libraries for each dispatcher/server). The structure of the monitor tree is described in an XML file, config.xml, which is stored within a central database. A "monitor MBean" is associated with each node in the monitor tree. Each monitor MBean may invoke methods during runtime to retrieve monitoring data from the runtime MBeans. The methods may be invoked periodically, based on a timer program. In addition, the runtime MBeans may actively provide monitoring data to the runtime MBeans.

c) Closest known related prior art (Press F1)
(documents, articles, WEB, etc. related to the subject matter of the invention.)

d) Differences and/or advantages from prior art

Prior systems do not generate a logical tree structure comprising monitor MBeans which operates in conjunction with runtime MBeans to collect monitoring information.

e) Is the invention an improvement of an existing SAP product?

no ☐

yes ☒ Please identify the product (Component of e.g. R/3, New Dimension, mySAP.com etc.).

Web AS

f) The invention can be used for the following purposes:

IV Commercialization of the invention

a) **Has the invention been divulged to non-SAP employees?**

no ☒ yes ☐ *Please fill in below.*

<u>To whom:</u>		
Full Name	Company	Date (YYYY-MM-DD)
		- -
		- -
		- -
		- -

b) **Is the invention used or planned to be used by SAP in a product or service offering?**

no ☐ yes ☒ *Please describe [e.g., identify product/service and its area of use (Component of e.g. R/3, New Dimension, mySAP.com etc.)].*

Web AS

Please state when (date) it was/will be first used (YYYY-MM-DD):

- -

c) **Has a product embodying/using the Invention been sold or offered for sale to non-SAP employees?**

no ☐ yes ☐ *Please fill in below.*

To whom:

Full Name	Company	Date (YYYY-MM-DD)
		- -
		- -

V The following documents have been attached to this form:

If the documents cannot be transmitted as a file, please send them via interdepartmental mail to the Intellectual Property Department of SAP AG, Walldorf (Inhouse-mail: PATENT).

- a) **detailed description** ☐ yes ☒ no
- b) **drawings**
(e.g. flowcharts, ppt-files, screenshots) ☒ yes ☐ no
- c) **other** ☐ yes ☒ no

c) If yes, please specify:

VI Execution of this Form:

Please have each inventor sign and date below.

Herewith I / We declare that I am / We are the solely and true inventors.

	First Name	Last Name	Signature	Date
1.	Jürgen	Opgerorth	<i>J. Opgerorth</i>	6/18/2003
2.	Jörg	Weller	<i>J. Weller</i>	7/01/2003
3.	Gregor	Frey	<i>Gregor Frey</i>	7/01/2003
4.	Reinhold	Kautzleben	<i>Kautzleben</i>	7/03/2003
5.	Miroslav	Petrov	<i>Miroslav Petrov</i>	7/22/2003
6.				
7.				
8.				

Please submit the executed form to the SAP Patent Department in Walldorf (Inhouse-mail: PATENT).